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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,985	03/31/2004	Neal R. Rueger	102-0102US	1278
29855 7590 02/26/2007 WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI, L.L.P. 20333 SH 249 SUITE 600 HOUSTON, TX 77070			EXAMINER KACKAR, RAM N	
			ART UNIT 1763	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/26/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/814,985

**Applicant(s)**

RUEGER, NEAL R.

**Examiner**

Ram N. Kackar

**Art Unit**

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 44-70 is/are pending in the application.
- 4a) Of the above claim(s) 2,12 and 44-70, is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-11 and 13-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of claims 1, 3-11 and 13-23 and withdrawal of claims 2, 12 and 44-70 in the reply filed on 2/1/2007 is acknowledged.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 3-11 and 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gary Powell (US 6538734).**

Gary Powell discloses a reaction chamber (101) for deposition or etch processing (Col 1 lines 10-20). Further, Gary Powell discloses an excitation chamber (105) for detecting a sample gas by exciting it to emit radiation representing its chemical composition (Abstract) and teaches that this excitation chamber could be coupled to the reaction chamber to analyse a sample of exhaust gas coming out of plasma processing in the reaction chamber. As a further aspect Gary Powell discloses determining a flow of unknown sample gas when combined with a known flow of reference gas (Abstract and Col 1 lines 34-37) when the combination is excited together in the excitation chamber. The excitation chamber is disclosed to comprise a cylindrical cavity for receiving the processing gas (Fig 2-235) and a reference gas (Col 1 line 33-37, Col 7 lines 31-40 and Col 8 lines 7-14). The sampled gas could be representative of exhaust gas (Col 2 lines 7-14).

Art Unit: 1763

Further disclosed is an energy source coupled inductively to the excitation chamber for excitation of the gas (203), flange for processing gas (Fig 2-221), window for monitoring the plasma (237), fiber optics (208), a computer (112) to receive and analyze the spectrum and to control (Abstract). The process could be plasma or non-plasma (Col 7 lines 31-40).

As discussed above, Gary Powell teaches the presence of both reference gas and sample gas in the excitation chamber for the disclosed method of analysis but does not disclose the mechanism or plumbing needed to accomplish this.

However, to provide a dedicated inlet for reference gas coupled to the excitation chamber so as to include reference gas with sample gas before excitation in order to get the analytical advantage according to the teaching of Gary Powell would be obvious for one of ordinary skill in the art at the time of invention.

Having a dedicated input for reference gas has the obvious advantage that a self contained unit with a dedicated port could be designed for any number or type of reference gases and could be attached to any process chamber without any modification to it, since on a process chamber, gas inlet ports are generally specific to a certain process.

This advantage would be apparent to any one with ordinary skill in the art at the time of invention. Therefore having a dedicated inlet for reference port would have been obvious for one of ordinary skill in the art at the time of invention.

### ***Response to Arguments***

Applicant's arguments filed 2/1/2007 have been fully considered but they are not persuasive.

Art Unit: 1763

Applicants have repeated the arguments in regards to an inlet for reference gas.

Applicants argue that the description of Fig 10 (Col 7 lines 31-38) discloses that reference gas was introduced in the reaction chamber and not the excitation chamber.

In response it is stated that Fig 10 discloses a plot of the ratio of intensities  $F(704)/Ar(750)$  with constant flow of reference gas (Argon) and varying flow of  $CF_4$  gas. The plot proves that if the ratio is known, an unknown flow of  $CF_4$  could be determined from the plot. Fig 10 does not disclose gas inlet diagram. It is stated that the gases were introduced through the reaction chamber to reach the excitation chamber.

It is agreed that inlet for reference gas is not disclosed, neither on the excitation chamber nor on the reaction chamber. What is disclosed however, is the teaching which expects both reference gas and sample gas in the same excitation space. In view of this teaching, provision of a gas inlet for reference gas would be straightforward and obvious for one of ordinary skill in the art at the time of invention.

It is noted that the reference of Gary Powell anticipates use of this analytical technique of gas sampling under different configurations without being limited to a specific form (Col 1 lines 61-64).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 1763

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N. Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ram Kackar  
Primary Examiner AU 1763